

claims of the current application. The Liddle reference teaches a composition resulting from mixing 90 parts of isopropanol, about 8 or 10 parts of polysiloxane and about 0.2 parts of acid to form a water repellent surface on glass or nonporous plastic. The Palcher reference teaches a polysiloxane emulsion in water for preserving rubber and renewing its surfaces, and the Bright reference is a cleaning solution for glass-cleaning. There is no motivation in any of the references to select the paltry amount of acid from the Liddle reference (0.2 grams at most per 100 grams of the applied material in the examples) and use it for the primary treating agent for the rubber based on Palcher's use of polysiloxane on rubbers. The Liddle reference, Col. 1, Lines 36 - 44, teaches that polysiloxane solutions with mineral acids, such as sulfuric acid, had been patented as early as May, 1971. If, as the examiner asserts, it was obvious to add an acid to the polysiloxane of the Palcher reference to improve its effect, then Palcher should have claimed the use of acid when he filed his application on October 29, 1971, or when he filed one of his two continuations on May 8, 1972, or January 21, 1974.

Applicant's point in raising the nonporous vs. porous surfaces was that the Liddle reference limited itself to nonporous surfaces which can only be surface coated. Applicant uses organic acids and inorganic acids which are known to swell and be absorbed or adsorbed into rubbers, thermoplastic elastomers, and some plastics suitable for wiper blades. The porosity of wiper blades to acid such as sulfonic acids (a preferred acid) will be recognized by one skilled in the art.

The examiner makes a point that the Liddle reference discloses both individual components and reaction products. This was in response to applicant's arguments that Liddle was using a reaction product, not the

individual components of the recipe. Applicant still asserts that is the only reasonable interpretation of the reference which states in all three examples that the water repellency on the windshield was still perceptible two months after the application to the windshield. One skilled in the art would understand that the alcohol and the mineral acid, both of which are highly water soluble, would wash off the nonporous windshield in the first rain, while the polysiloxanes (unreacted) would be washed or worn away in one to four weeks. Only a reaction product that might bond to the windshield surface would be expected to remain perceptible after one month.

In order to more concisely set forth applicant's arguments, and better distinguish the invention from the prior art, he sets them forth below as seven points:

No. 1. Wiper blades are designed to operate by pushing water ahead of the moving conjunction of the blade and surface of the glass windshield.

No. 2. To accomplish this the wiper should have a sufficiently high coefficient of friction. Otherwise, the blade will simply ride over the water, resulting in streaking.

No. 3. While in use on a vehicle, wiper blade's surfaces are subjected to environmental contamination by insoluble grime and contaminants which cause a lowering of the blade's coefficient of friction, resulting in an increased propensity to ride over water and cause streaks which undesirably reduces visibility through the windshield.

No. 4. In the present application, acids, and in particular sulfonic acid, are used to both remove grime and contaminants from the wiper and the windshield, and to increase the blade's coefficient of friction on the windshield back to its desired coefficient of friction by interacting with the blade. This increase in

coefficient of friction typically continues even after the majority of the sulfonic acid has washed off, indicating a modification of the wiper by the acid, which is not taught by the prior art.

No. 5. In Liddle, sulfonic acid was used in combination with polysiloxane for exactly the opposite purpose, that is to decrease the coefficient of friction of the glass windshield so that water would run off rather than adhere to the glass.

No. 6. Similarly, Palcher accomplished his objectives of protecting wiper blades by decreasing the blade's coefficient of friction so that dirt and other contaminants would not adhere to the blade's surface. (Column 1, lines 27 - 30).

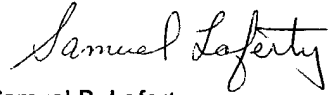
No. 7. In the present application the objectives (reducing blade streaking) are met by just the opposite means, that is increasing the blade's coefficient of friction (by applying an acid) so the blade pushes the water off the windshield rather than simply riding over the water.

Therefore, the prior art (Liddle and Palcher) teaches in general the reduction of friction in order to improve windshield and wiper performance (facilitating water runoff and decreasing wiper noise respectively). Sulfonic acid, when applied by itself to wiper blades, causes an increase in a blade's coefficient of friction (a result which would not have been anticipated based on Liddle.) In conclusion, applicant's claims are not obvious in view of the prior art because neither the Liddle nor the Palcher references recognized or suggest that acids would function to increase the coefficient of friction and even if they did recognize this, they teach away from increasing the coefficient of friction as they both desire low coefficient of friction surfaces.

Allowance of claims 13 - 20 is respectfully requested.

Respectfully submitted,

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